

AMENDMENTS

IN THE CLAIMS:

1. (Cancelled)

2. (Cancelled).

3. (Cancelled).

4. (Cancelled)

5. (Cancelled).

6. (Cancelled).

7. (Cancelled).

8. (Cancelled).

9. (Currently Amended) A power amplifier module ~~as claimed in claim 8~~, comprising
a power amplifier circuit having a power supply regulated output power level;
a power supply transistor coupled to the power amplifier circuit and operable to control a
power supply to the power amplifier circuit in response to a drive signal, wherein the power
supply transistor is a Field Effect Transistor;
a drive circuit coupled to the power supply transistor and operable to
generate the drive signal in response to a power level input signal;
a detection circuit for determining an operating characteristic of the power supply
transistor; and
a control circuit coupled to the drive circuit and operable to control the drive signal in
response to the operating characteristic;
wherein the control circuit is operable to control the drive signal to substantially prevent the
power supply transistor from entering a FET linear region operating state; and the detection
circuit comprises a sense transistor operable to detect a drain- gate voltage of the power supply
transistor; wherein the sense transistor conducts conducting current if the power supply transistor

enters a FET linear region of operation and if a drain-source voltage of the power supply transistor is below a gate-source voltage minus a threshold voltage of the power supply transistor; and the control circuit is operable to control the drive signal in response to the current.

10. (Currently Amended) A power amplifier module ~~as claimed in claim 8~~, comprising:

a power amplifier circuit having a power supply regulated output power level;

a power supply transistor coupled to the power amplifier circuit and operable to control a power supply to the power amplifier circuit in response to a drive signal, wherein the power supply transistor is a Field Effect Transistor;

a drive circuit coupled to the power supply transistor and operable to generate the drive signal in response to a power level input signal;

a detection circuit for determining an operating characteristic of the power supply transistor;

a control circuit coupled to the drive circuit and operable to control the drive signal in response to the operating characteristic,

wherein the detection circuit comprises a sense transistor operable to detect a drain- gate voltage of the power supply transistor and to conduct a current if the power supply transistor enters a FET linear region of operation; and

the control circuit is operable to control the drive signal in response to the current and to control the drive signal to substantially prevent the power supply transistor from entering a FET linear region operating state and to reduce an absolute amplitude of the drive signal in response to the sense transistor conducting the current.

11. (Currently Amended) A power amplifier module ~~as claimed in claim 8~~, comprising:

a power amplifier circuit having a power supply regulated output power level;

a power supply transistor coupled to the power amplifier circuit and operable to control a power supply to the power amplifier circuit in response to a drive signal, wherein the power supply transistor is a Field Effect Transistor;

a drive circuit coupled to the power supply transistor and operable to generate the drive signal in response to a power level input signal;

a detection circuit for determining an operating characteristic of the power supply transistor; and

a control circuit coupled to the drive circuit and operable to control the drive signal in response to the operating characteristic,

wherein the detection circuit comprises a sense transistor operable to detect a drain-gate voltage of the power supply transistor and to conduct a current if the power supply transistor enters a FET linear region of operation and wherein a gate of the sense transistor is connected to a gate of the power supply transistor and a source of the sense transistor is connected to a drain of the power supply transistor; and

wherein the control circuit is operable to control the drive signal in response to the current and to control the drive signal to substantially prevent the power supply transistor from entering a FET linear region operating state.

12. (Currently Amended) A power amplifier module ~~as claimed in claim 7,~~ comprising:

a power amplifier circuit having a power supply regulated output power level;

a power supply transistor coupled to the power amplifier circuit and operable to control a power supply to the power amplifier circuit in response to a drive signal, wherein the power supply transistor is a Field Effect Transistor;

a drive circuit coupled to the power supply transistor and operable to generate the drive signal in response to a power level input signal;

a detection circuit for determining an operating characteristic of the power supply transistor; and

a control circuit coupled to the drive circuit and operable to control the drive signal in response to the operating characteristic,

wherein the control circuit is operable to control the drive signal to substantially prevent the power supply transistor from entering a FET linear region operating state and the detection circuit comprises a sense transistor operable to detect a drain- gate voltage of the power supply transistor, which ~~wherein the~~ sense transistor has a threshold voltage similar to the threshold voltage of the power supply transistor.

13. (Currently Amended) A power amplifier module ~~as claimed in claim 7,~~ comprising:

a power amplifier circuit having a power supply regulated output power level;

a power supply transistor coupled to the power amplifier circuit and operable to control a power supply to the power amplifier circuit in response to a drive signal, wherein the power supply transistor is a Field Effect Transistor;

a drive circuit coupled to the power supply transistor and operable to generate the drive signal in response to a power level input signal;

a detection circuit for determining an operating characteristic of the power supply transistor; and

a control circuit coupled to the drive circuit and operable to control the drive signal in response to the operating characteristic,

wherein the control circuit is operable to control the drive signal to substantially prevent the power supply transistor from entering a FET linear region operating state; and the detection circuit comprises a sense transistor operable to detect a drain- gate voltage of the power supply transistor; and

wherein the control circuit comprises an output transistor coupled to the sense transistor and to a signal junction in the drive circuit such that if the sense transistor conducts current, the output transistor becomes active and causes a signal level at the signal point to be reduced.

14. (Previously Presented) A power amplifier module as claimed in claim 13, wherein the sense transistor is connected to a first input of a current image circuit and the output transistor is connected to a second input of the current image circuit.

15. (Previously Presented) A power amplifier module as claimed in claim 11, wherein a supply voltage for the power supply transistor is a variable voltage.

16. (Cancelled)

17. (Cancelled)

18. (Cancelled)

19. (Cancelled)

20. (New) A power amplifier module as claimed in claim 10, wherein the sense transistor conducts current if a drain-source voltage of the power supply transistor is below a gate-source voltage minus a threshold voltage of the power supply transistor.

21. (New) A power amplifier module as claimed in claim 12, wherein the sense transistor is operable to conduct a current if the power supply transistor enters a FET linear region of operation and the control circuit is operable to control the drive signal in response to the current

and wherein the sense transistor conducts current if a drain-source voltage of the power supply transistor is below a gate-source voltage minus a threshold voltage of the power supply transistor.

22. (New) A power amplifier module as claimed in claim 11, wherein the control circuit is operable to reduce an absolute amplitude of the drive signal in response to the sense transistor conducting the current.

23. (New) A power amplifier module as claimed in claim 12, wherein the sense transistor is operable to conduct a current if the power supply transistor enters a FET linear region of operation and the control circuit is operable to control the drive signal in response to the current and wherein a gate of the sense transistor is connected to a gate of the power supply transistor and a source of the sense transistor is connected to a drain of the power supply transistor.

24. (New) A power amplifier module as claimed in claim 12, wherein the sense transistor is operable to conduct a current if the power supply transistor enters a FET linear region of operation and the control circuit is operable to control the drive signal in response to the current; and wherein a gate of the sense transistor is connected to a gate of the power supply transistor and a source of the sense transistor is connected to a drain of the power supply transistor.

25. (New) A power amplifier module as claimed in claim 13, wherein the control circuit comprises an output transistor coupled to the sense transistor and to a signal junction in the drive circuit such that if the sense transistor conducts current, the output transistor becomes active and causes a signal level at the signal point to be reduced.

26. (New) A power amplifier module as claimed in claim 11, wherein the sense transistor conducts current if a drain-source voltage of the power supply transistor is below a gate-source voltage minus a threshold voltage of the power supply transistor.

27. (New) A power amplifier module as claimed in claim 13, wherein the sense transistor is operable to conduct a current if the power supply transistor enters a FET linear region of operation and the control circuit is operable to control the drive signal in response to the current and wherein the sense transistor conducts current if a drain-source voltage of the power supply

transistor is below a gate-source voltage minus a threshold voltage of the power supply transistor.

28. (New) A power amplifier module as claimed in claim 13, wherein the sense transistor is operable to conduct a current if the power supply transistor enters a FET linear region of operation and the control circuit is operable to control the drive signal in response to the current and wherein a gate of the sense transistor is connected to a gate of the power supply transistor and a source of the sense transistor is connected to a drain of the power supply transistor.

29. (New) A power amplifier module as claimed in claim 13, wherein the sense transistor is operable to conduct a current if the power supply transistor enters a FET linear region of operation and the control circuit is operable to control the drive signal in response to the current; and wherein a gate of the sense transistor is connected to a gate of the power supply transistor and a source of the sense transistor is connected to a drain of the power supply transistor.

30. (New) A power amplifier circuit having a power supply regulated output power level;
a power supply transistor coupled to the power amplifier circuit and operable to control a power supply to the power amplifier circuit in response to a drive signal;
a drive circuit coupled to the power supply transistor and operable to generate the drive signal in response to a power level input signal;
a detection circuit for determining an operating characteristic of the power supply transistor; and
a control circuit coupled to the drive circuit and operable to control the drive signal in response to the operating characteristic,
wherein the detection circuit comprises a sense transistor operable to detect a collector-base voltage or a source-gate voltage of the power supply transistor, and the sense transistor is operable to conduct a current if the power supply transistor enters a linear region of operation and the control circuit is operable to control the drive signal in response to the current and to reduce an absolute amplitude of the drive signal in response to the sense transistor conducting the current.

31. (New) A power amplifier circuit having a power supply regulated output power level;
a power supply transistor coupled to the power amplifier circuit and operable to control a power supply to the power amplifier circuit in response to a drive signal;

a drive circuit coupled to the power supply transistor and operable to generate the drive signal in response to a power level input signal;
 a detection circuit for determining an operating characteristic of the power supply transistor; and
 a control circuit coupled to the drive circuit and operable to control the drive signal in response to the operating characteristic;
 wherein the detection circuit comprises a sense transistor operable to detect a collector-base voltage or a source-gate voltage of the power supply transistor, and
 wherein the sense transistor has a threshold voltage similar to a threshold voltage of the power supply transistor.

32. (New) A power amplifier circuit having a power supply regulated output power level;
 a power supply transistor coupled to the power amplifier circuit and operable to control a power supply to the power amplifier circuit in response to a drive signal;
 a drive circuit coupled to the power supply transistor and operable to generate the drive signal in response to a power level input signal;
 a detection circuit for determining an operating characteristic of the power supply transistor; and
 a control circuit coupled to the drive circuit and operable to control the drive signal in response to the operating characteristic,
 wherein the detection circuit comprises a sense transistor operable to detect a collector-base voltage or a source-gate voltage of the power supply transistor, and
 wherein the control circuit comprises an output transistor coupled to the sense transistor and to a signal junction in the drive circuit such that if the sense transistor conducts current, the output transistor becomes active and causes a signal level at the signal point to be reduced.